# United States Patent [19]

**Guenther et al.**

[11] **4,196,480**

[45] **Apr. 8, 1980**


[54] **TOILET SUPPORT**


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[73] Assignee: **C. D. Sparling Co.,** Plymouth, Mich.



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[22] Filed: **Feb. 2, 1976**

**Related U.S. Application Data**

[62] Division of Ser. No. 404,933, Oct. 10, 1973, abandoned.

[51] **Int. Cl.**[2] ..... **E03D 11/00;** A47C 7/54

[52] **U.S. Cl.** ..... **4/254;** 4/134; 297/411

[58] **Field of Search** ..... 4/1, 134, 185 R, 185 H, 4/240, 254; 297/336, 411; D23/53, 70; 248/345.1, 240, 240.4



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[57] **ABSTRACT**

A toilet support for use by invalids and the like wherein one or more arms are mounted on brackets supported adjacent the hinge for the seat of the toilet bowl for movement into and out of operative position such that in one position the arms can be gripped and engaged by the invalid and in another position said arms are out of the way.


**7 Claims, 8 Drawing Figures**

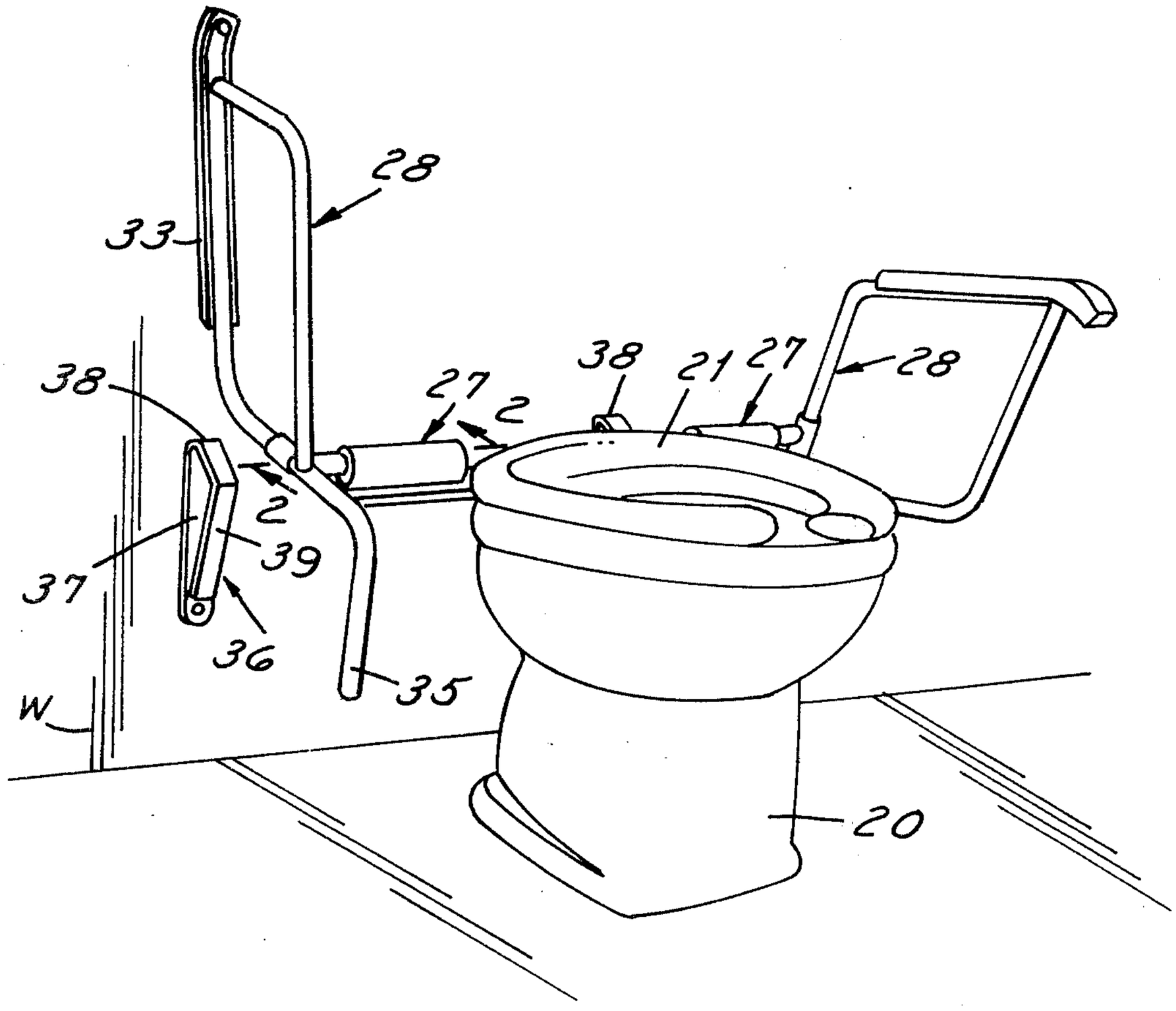

FIG. 1

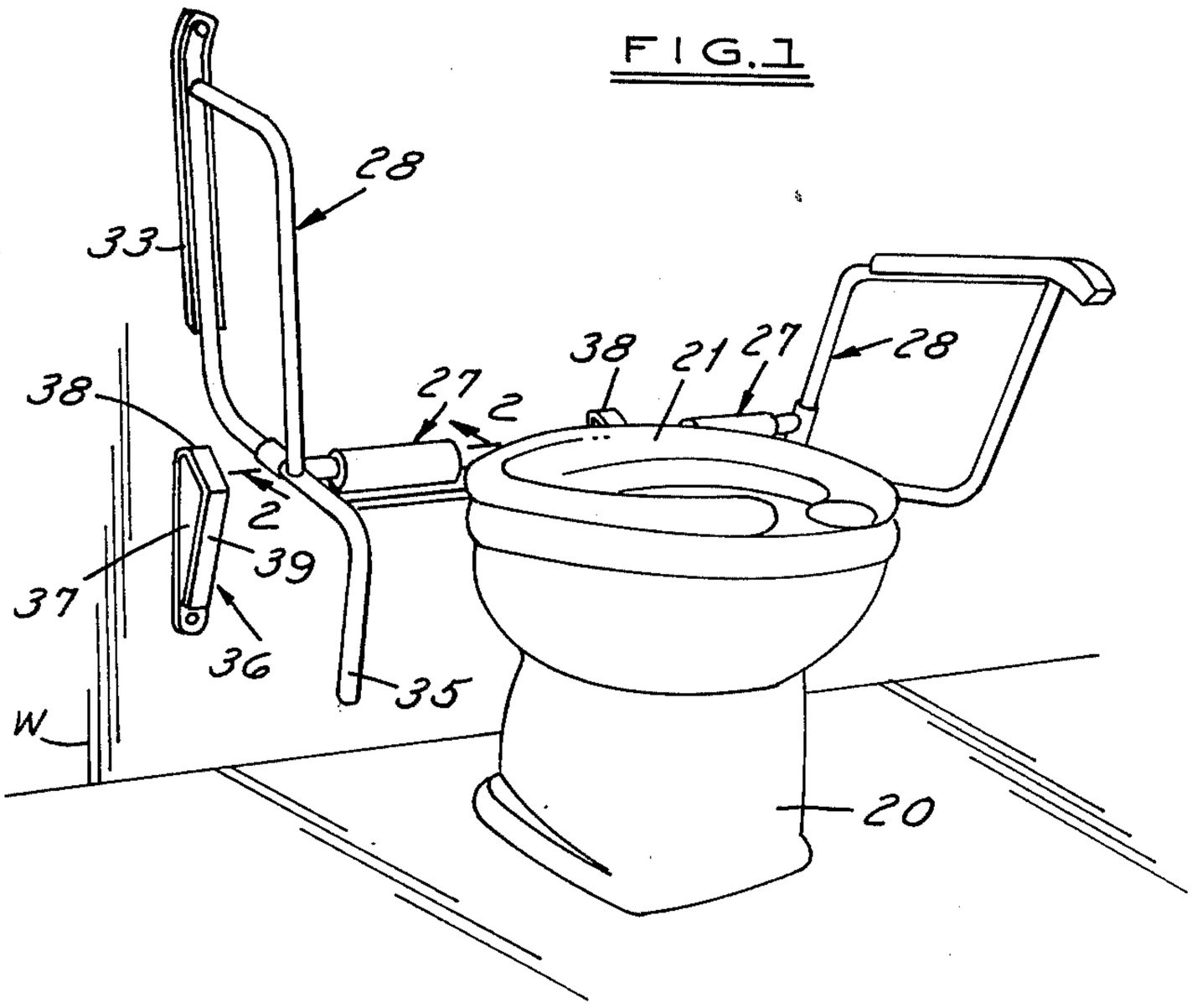
28
33
38
27
2
38
21
27
28
2
39
37
36
35
W
20

FIG. 2

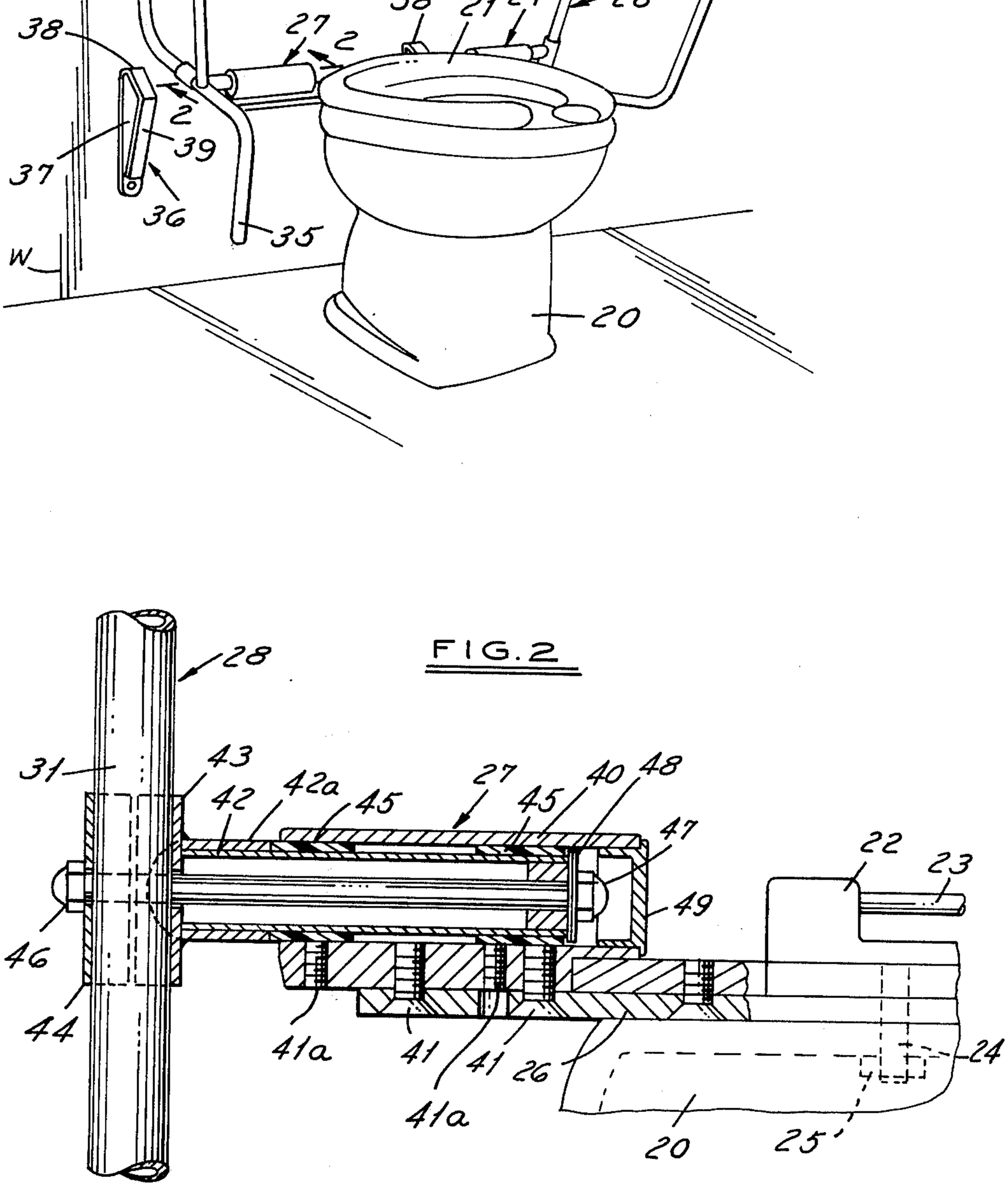
28
31
43
42
42a
45
27
45
40
48
47
22
23
49
46
44
41a
41
41
26
24
41a
20
25'

FIG. 3

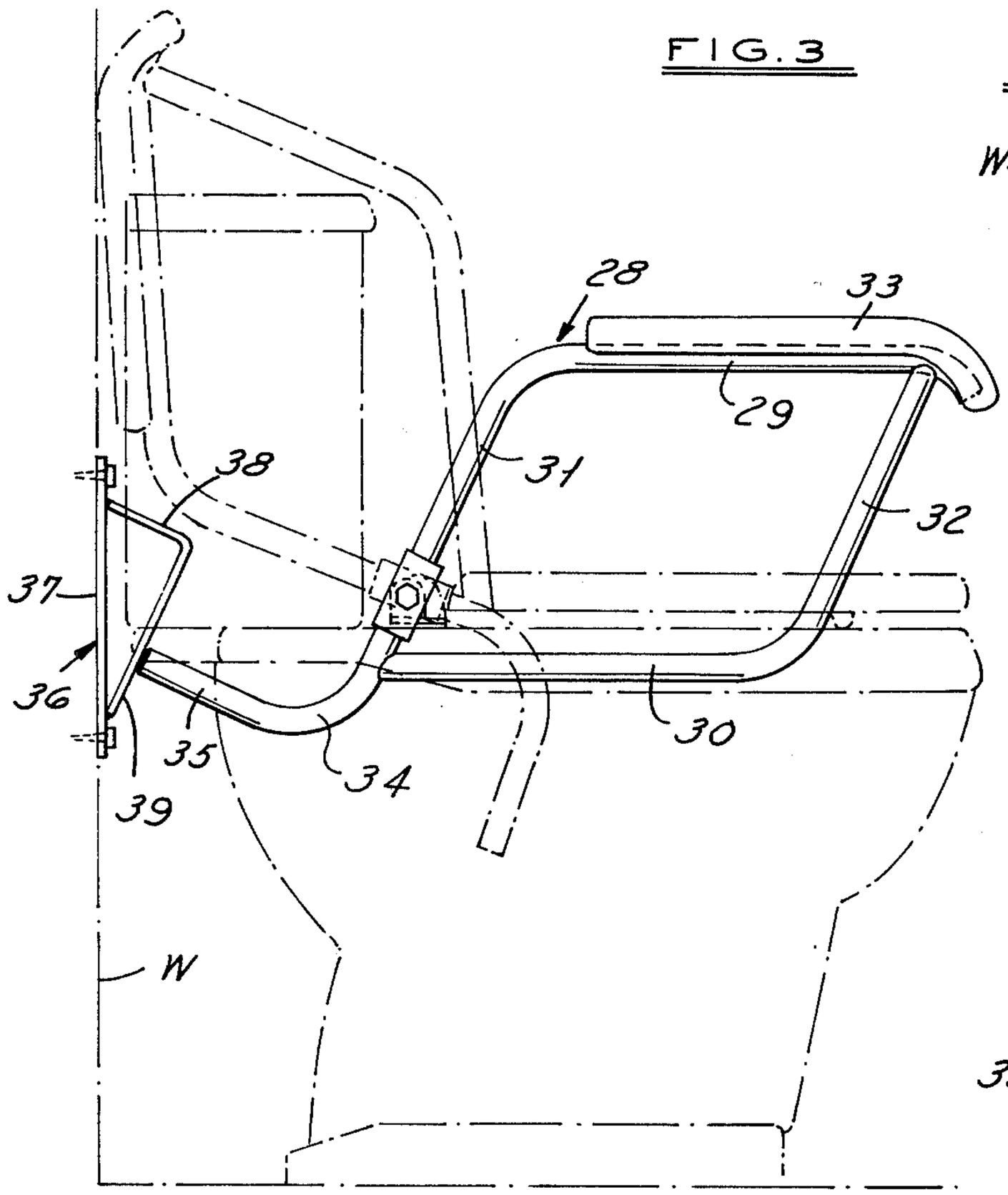


FIG. 3B

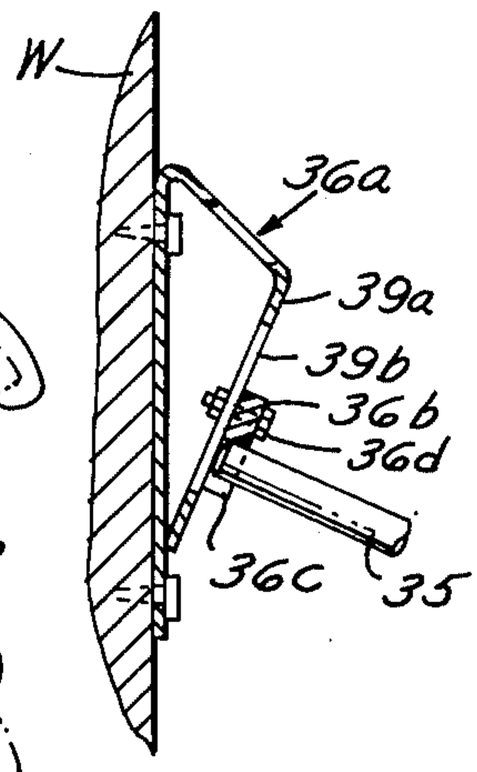


FIG. 3A

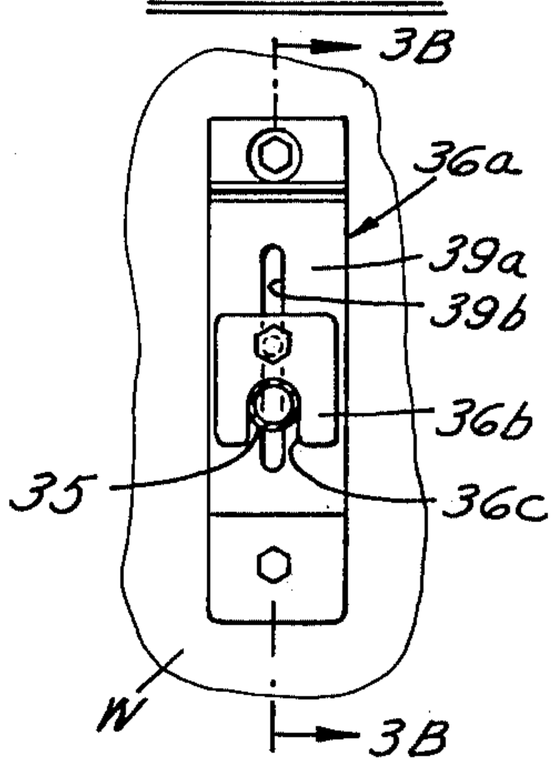


FIG. 4

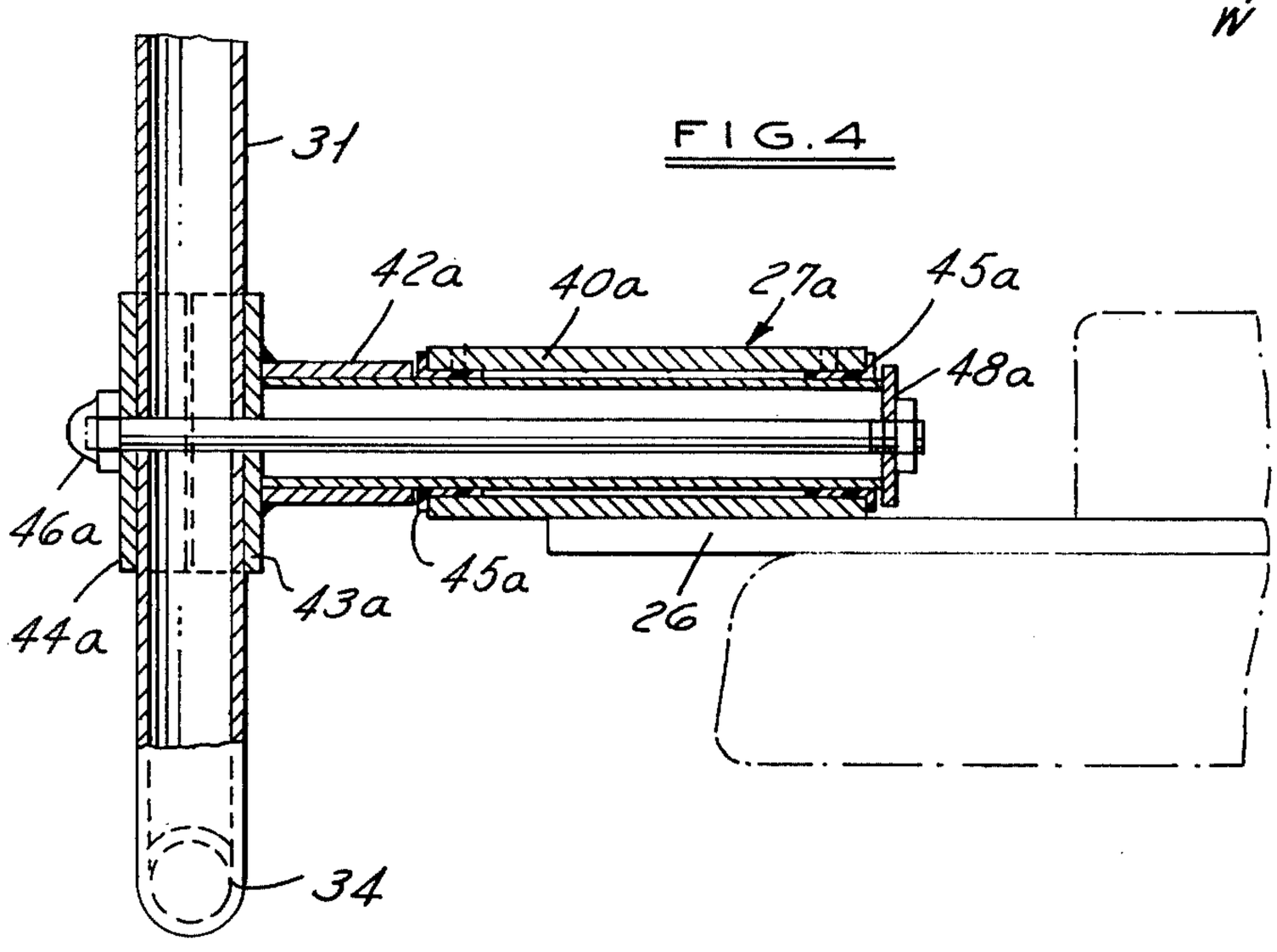

FIG. 5

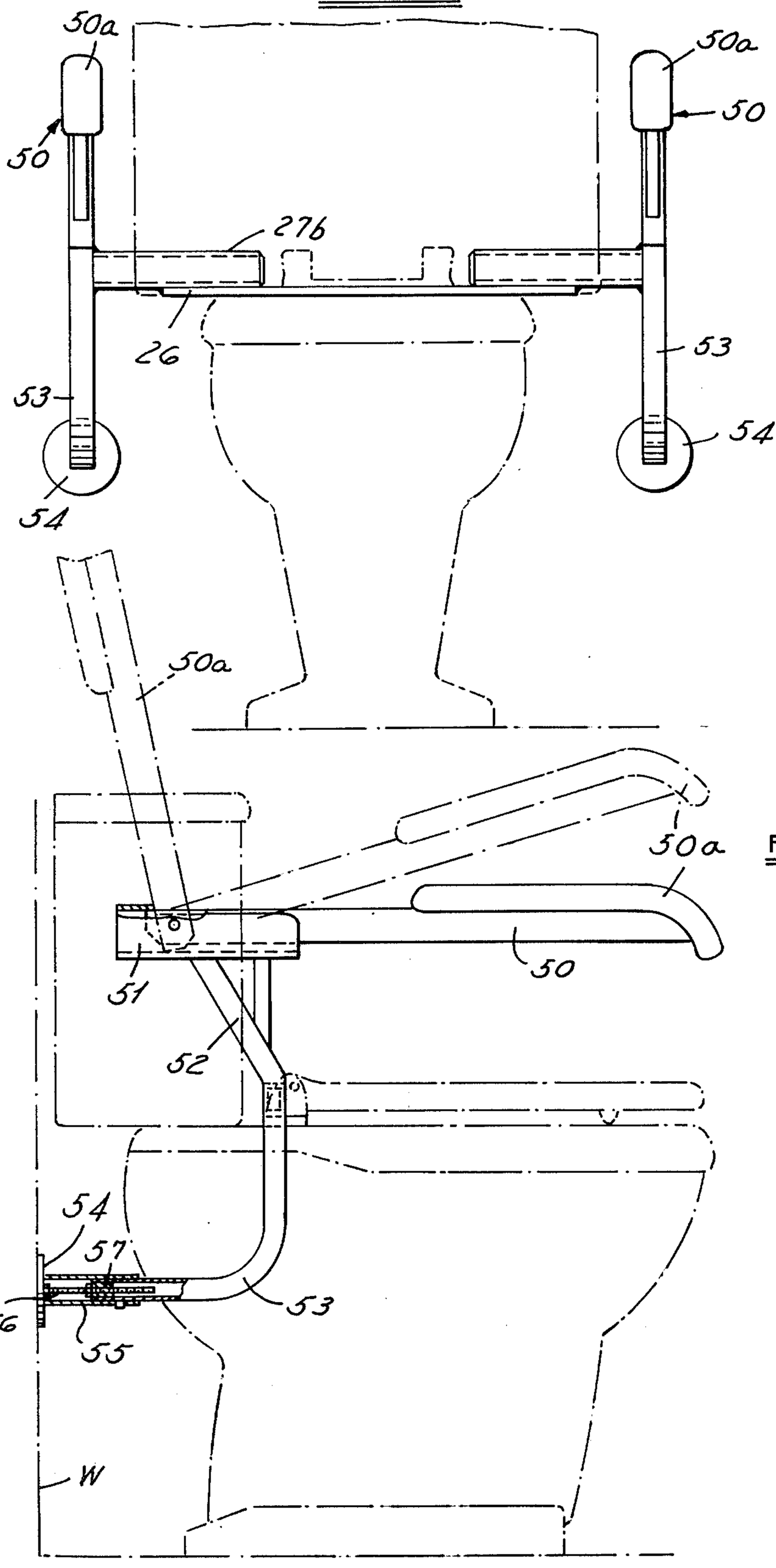


FIG. 6

# TOILET SUPPORT

This application is a division of U.S. application Ser. No. 404,933, filed Oct. 10, 1973 now abandoned.

This invention relates to toilet supports for assisting invalids in the use of a toilet bowl.

## BACKGROUND OF THE INVENTION

In both institutions and homes wherein the aged or invalid persons reside, it has become more common for some form of support to be provided for assisting the persons in the use of the toilet facilities. One of the considerations in such devices is that the area surrounding the toilet bowl be readily accessible for seating the person and for cleaning and that the device be sufficiently strong to withstand the weight of the person using it. Among the objects of the invention are to provide toilet supports which utilize the strength of the toilet bowl for supporting part of the weight of the user and which incorporate novel means for providing the bearing; which either keep the area surrounding the toilet bowl free or easily accessible; and which provide a clean easily maintained construction.

## SUMMARY OF THE INVENTION

The toilet support embodying the invention comprises one or more arms mounted on brackets supported adjacent the hinge for the seat of the toilet bowl for movement into and out of operated position such that in one position the arms can be gripped and engaged by the invalid and in another position said arms are out of the way. Novel means are provided for supporting the arms that have hand engaging portions for movement into and out of operative position and for ready access to the area surrounding the toilet bowl for cleaning and the like.

## DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a toilet support embodying the invention in position on a toilet bowl.

FIG. **2** is a fragmentary sectional view on an enlarged scale taken along the line **2—2** in FIG. **1**.

FIG. **3** is a side elevational view of the apparatus shown in FIG. **1** showing the parts in a different operative position.

FIG. **3A** is a part sectional view of a modified form of the invention.

FIG. **3B** is a fragmentary sectional view taken along the line **3B—3B** in FIG. **3A**.

FIG. **4** is a sectional view similar to FIG. **2** of a modified form of the invention.

FIG. **5** is a front elevational view of a further modified form of the invention.

FIG. **6** is a part sectional side elevational view of the device shown in FIG. **5**.

## DESCRIPTION

Referring to FIG. **1**, the invention relates to toilet supports for use in connection with a toilet bowl **20** of conventional construction having a toilet seat **21** hinged adjacent the upper rear end of the toilet bowl by a bracket **22** supporting a hinge pin **23** and retained thereon by bolts **24** and nuts **25** threaded thereon.

Each of the forms of the invention hereinafter described comprises a pair of arms adapted to be used alongside the toilet bowl although, as will be apparent



only one can be used if space limitations prevent the use of two.

In accordance with the invention, a mounting plate **26** which is generally flat is interposed between the bracket **22** and the bowl **20** and bolts **24** extend therethrough. Plate **26** provides a support for spaced bearings **27** for arms **28** which are pivoted by the bearings **27** on the plate **26**.

As shown in FIG. **3**, each arm **28** is made of tubular metal comprising, when the arm is in position for use, a top portion **29**, bottom portion **30** and side portions **31**, **32** connected to form a parallelogram. The top portion **29** has a wood or plastic hand gripping part **33** fixed thereto. As shown in FIG. **3**, the arm **28** is in operative position for gripping by an aged or invalid person. The arm **28** can be swung to the broken line position shown in FIG. **3** out of the way for access and normal use of the toilet.

As further shown in FIGS. **1** and **3**, the arm **28** comprises an extension or projection **34** which extends outwardly from side portion **31** past bottom portion **30** and thereafter has a free end **35** at a right angle. In the normal operative position with the hand engaging portion **33** extending horizontally, the projection **35** extends upwardly at an acute angle to the horizontal into engagement with a bracket **36**. Bracket **36** is generally triangular in shape and may be made of one or several pieces of metal including a vertical leg **37** forming the hypotenuse of the triangle, a short leg **38** and a long leg **39** at a right angle to the short leg **38**. The angle which leg **39** makes with leg **37** is substantially equal to the acute angle that end **35** of arm **28** makes with the horizontal when the arm is in the solid line operative position shown in FIG. **3**. Bracket **36** is mounted on the vertical surface of wall W with its leg **37** engaging the wall and held in position either by screws or by appropriate adhesives such as an epoxy adhesive. When so mounted, the projection **35** contacts surface **36** at a normal or 90° relationship. In this manner, the load or weight on the arm **28** is transmitted to the bearing **27** as well as to the wall through the bracket **37**. The load on bracket **36** does not tend to displace the bracket vertically along the wall.

In the modified form of the invention shown in FIGS. **3A** and **3B**, the bracket **36*a*** is made of a single piece and leg **39*a*** has an elongated slot **39*b*** therein. A plastic retainer **36*b*** is held in adjustable position on the leg **39*a*** by a bolt **36*d*** extending through the slot. Retainer **36*b*** includes an open-ended slot **36*c*** into which the end of projection **35** extends. In this manner, the end of the projection **35** is given lateral stability.

Referring to FIG. **2**, the bearing **27** comprises a housing **40** which is tubular and fixed to the plate **26** by screws **41**. A tube **42** is welded to one of two tubes encircling sections **43**, **44** surrounding the side portion **31** of the arm **28**. Tube **42** extends through spaced plastic sleeve bearings **45** in the tubular housing **40**. A bolt **46** extends through the sections **43**, **44** and portion **31**, and into and through the tubular portion **42**. A nut **47** threaded on bolt **46** engaging washers **48** which in turn engage the right bearing **45** to retain the tube **42** and in turn the arm in position axially of the bearing **27**. A cap **49** is provided over the end of the housing **40** to close the opening into which the tube **42** extends. A short tubular spacer **42*a*** surrounds tube **42** to space the arm axially of bearing **27**. Screws **41*a*** extend through the housing **40** into frictional engagement with the bearings **45** so that sufficient friction is provided to tend to retain

the arms in any position. This prevents the arms from inadvertently falling under the action of gravity and causing possible injury or damage.

In the modified construction shown in FIG. **4**, a similar construction is used except that the bearing **27***a* has sleeve bearings **45***a* with radially extending flanges that bear against the ends of housing **40***a*. The washer **48***a* engages the exterior of the right sleeve bearing **45***a*.

It can thus be seen that there has been provided an arrangement wherein in one position the arm is in operative gripping position and in another it is moved out of the way for access or normal use of the toilet. In both positions, the arm is clear of the area surrounding the toilet bowl for ready access to the area surrounding the toilet bowl.

In the form of the invention shown in FIGS. **5** and **6**, each arm **50** having a hand gripping part **50***a* is pivoted to a bracket **51** for movement between a normal position shown in solid lines in FIG. **6** to an out of the way position shown in broken lines. Bracket **51** is U-shaped and is engaged by arm **50** to limit its downward movement. Bracket **51** is fixed to the upper end of a tube **52** which is fixed intermediate its ends to a tubular section **27***b* which in turn is mounted on plate **26**. The lower end of tube **52** extends at a right angle as at **53** horizontally toward the wall W. In this form, a pad **54** is fixed to a sleeve **55** telescoped over the end of the portion **53**. A bolt **56** threaded into a nut **57** in the projection **53** limits the inward movement of the pad **54**. In this manner, the force on the arm **50** is transmitted to the bearing **27***b* and to the wall through the pad **54**. In this form, the arm **50** is swung upwardly to the broken line positions out of the way and the bracket **51** and tube portions **52**, **53** of the arm remain in the same relationships to the toilet bowl at all times.

We claim:

**1**. In a toilet support for use with a toilet bowl, the combination comprising

an arm having a hand gripping portion,

bearing means adapted to be mounted on said toilet bowl for mounting said arm on said toilet bowl,

said arm including a projection,

a stationary abutment adapted to be mounted on a wall adjacent and rearwardly of said toilet bowl,

said projection adapted to extend rearwardly when said hand gripping portion is substantially horizontal to engage said stationary abutment,

said bearing means and said projection comprising the sole support for said arm when said projection is in engagement with a stationary abutment.

**2**. The combination set forth in claim **1** wherein said stationary abutment comprises a bracket adapted to be mounted on a wall at the rear of said toilet bowl, said bracket having a flat wall contacting portion adapted to extend vertically along said wall and a second portion extending upwardly at an acute angle to said first-mentioned wall contacting portion and engaged by said projection.

**3**. The combination set forth in claim **2** wherein said projection makes a right angle with said second-mentioned portion of said bracket.

**4**. The combination set forth in claim **2** wherein the angle which said projection makes with the horizontal when in contact with said bracket is substantially equal to the angle that the second portion of the bracket makes with the vertical.

**5**. The combination set forth in claim **1** wherein said bearing means rotatably supports said arm about a horizontal axis.

**6**. The combination set forth in claim **1** wherein said projection is adapted to engage said stationary abutment at substantially a right angle.

**7**. The combination set forth in claim **1** wherein said stationary means includes means for laterally restraining said projection.

* * * * *